Appendix F.5(b) - Data Center Cost Estimating Tool - Instructions

Summary This worksheet is intended to help estimate the cost of projects under the DCS program. This tool is intended to replicate the DCS Agreement pricing methodology at a very high level and provide general cost estimates. Actual costs should be close to this model; however, actuals will never be identical due to unique technology issues, unit cost variance based on enterprise usage, and differences between planned and actual needs upon implementation of the project.

There are two primary steps in calculating potential costs. The first is estimating resource usage. The second is estimating the hardware services charge (HSC). Resource usage is calculated at the unit rate level. It is important to note that actual rates will vary based on total actual resource usage in each category at the enterprise level. In addition, there is no estimate for inflation (COLA) in the unit rates for future years.

As with all estimates, the user may need to adjust the output numbers based on the assumptions related to the the project and user discretion. This tool is designed to quickly provide users a reasonable estimate of costs.

Step 1   Complete the Unit Rates worksheet with the estimated number of units to be consumed during each fiscal year.

Step 2   Review the ServerSoftware worksheet to determine what software is included in the infrastructure stack. The infrastructure software stack costs are included in the unit rate costs. Only include the non-infrastructure software in step 3.

Step 3   Complete the HSC worksheet to determine what the HSC will be. Provide an estimate of all hardware, software, and maintenance costs by year. The hardware portion of this cost is amortized over five years while the software and maintenace costs are paid in the year incurred. Due to the number of potential configurations and needs, it is impossible for this tool to account for every scenario. For the purposes of this step, the user should enter the cost information by year as if they were paying a vendor using a purchase strategy.

Step 4   Review the Summary Costs worksheet to evaluate the total costs associated with the projects. As noted above, the user may want to adjust these estimates to address unique issues associated with their organization or project.

	Unit of Measure	SFY 09	Units	SFY 10	Units	SFY 11	Units	SFY 12
CPU								
MVS Application CPU Hours - Class 1	CPU Hours							
MVS Application CPU Hours - Class 2	CPU Hours							
MVS Application CPU Hours - Class 3	CPU Hours							
MVS Application CPU Hours - Class 4	CPU Hours							
Unisys MIPS	MIPS							
DASD								
Mainframe Allocated Application DASD	GB							
Unisys DASD	GB							
Tape								
Application Tapes in Storage	Reel/Cartridge							
Application Tapes in Storage - VTS	GB							
Print and Mail								
Mainframe Output Print Pages - Standard	Pages (000)							
Mainframe Output Print Pages - Custom	Pages (000)							
Mailing Insertions - Standard	Envelopes (000)							
Mailing Insertions - Custom	Envelopes (000)							
Other								
Microfiche - Originals/Duplicates	fiche							
CD Production - Creates/Re-Creates	CDs							
Optical Storage	GB							
Application Servers								
Site Type: Data Center								
Intel High Complexity	Instance	-		-		-		
Intel Medium Complexity	Instance	12		12		12		
Intel Low Complexity	Instance	-		-		-		
UNIX High Complexity	Instance	51		51		51		
UNIX Medium Complexity	Instance	18		18		18		
UNIX Low Complexity	Instance	-		-		-		
Site Type: Remote Locations: Urban								
Intel High Complexity	Instance							
Intel Medium Complexity	Instance							
Intel Low Complexity	Instance							
UNIX High Complexity	Instance							
UNIX Medium Complexity	Instance							
UNIX Low Complexity	Instance							
Site Type: Remote Locations: Rural								
Intel High Complexity	Instance							
Intel Medium Complexity	Instance							
Intel Low Complexity	Instance							
Utility Servers								
Email Accounts	Account	-		-		-		

Tower: Mainframe

Tower: Server

	Unit of Measure	SFY 09	Units	SFY 10	Units	SFY 11	Units	SFY 12
LAN Attached Devices	Device		40		40		40	
Server Storage								
Allocated Disk Storage Dedicated	GB		345		345		345	
Allocated Disk Storage Shared	GB		4,600		4,600		4,600	
Direct Attached Tape	GB		-		-		-	
Centralized Tape	GB		-		-		-	
Offsite Tape	Reel/Cart.		250		250		250	

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TexasOnline does not have any Direct Attached Tape drives, but we do have to tape libraries:

1) Sun L9 - 1 DLT8000 tape drive and 9 DLT IV tape slots
2) Sun L40 - 4 DLT8000 tape drives and 40 DLT IV tape slots

TexasOnline has a total of 260 DLT IV tapes with a native capacity of 40GB shared between both tape libraries.

Direct Attached Tape: 0
Centralized Tape: 260 * 40 = 10,400GB

Units	SFY 13	Units
-		-
12		12
-		-
51		51
18		18
-		-
-		-

Units	SFY 13	Units
40		40
345		345
4,600		4,600
-		-
-		-
250		250

Server Software
Infrastructure Stack versus HSC

	Application Servers		Utility Servers			
	Application Server Infrastructure Stack Software (included in the Application Server Instance Charge)	DIR Customer Request [1]	Utility Server Infrastructure Stack Software (included in the LAN Attached Devices RU Category)	Utility Server Infrastructure Stack Software (included in the Email Accounts RU Category)	DIR Customer Request [1]	Bundle Server/Desktop (included in the Utility Server Services Charges) [2]
Antivirus Software	SP	N/A	SP	SP	N/A	SP
Application Software	N/A	N/A	N/A	N/A	N/A	N/A
Application Utilities	N/A	TX	N/A	N/A	TX	N/A
Compilers	N/A	TX	N/A	N/A	N/A	N/A
Database Management Software	N/A	TX	N/A	N/A	N/A	N/A
Development Tools	N/A	TX	N/A	N/A	TX	N/A
E-mail / Collaborative Software	N/A	N/A	N/A	SP	TX (CAL included)	SP
Infrastructure Mgmt Software	SP	N/A	SP	SP	N/A	N/A
Middleware	N/A	TX	N/A	N/A	TX	N/A
Network Software	N/A	TX	N/A	N/A	TX	N/A
Operating Software	SP	N/A	SP	SP	N/A	N/A
Security Software	N/A	TX	N/A	N/A	TX	N/A
Utility / Monitoring & Management Software	SP	N/A	SP	SP	N/A	SP

N/A = Not Applicable
SP = Service Provider
TX = DIR or DIR Customer
Note 1: Software designated as "DIR Customer Request" shall only be procured and installed by Service Provider on Servers at the direction of DIR. The costs for such Software shall be included in the New Application Server Hardware Service Charge.

Note 2: On and after September 1, 2007, the costs for the Desktop Software identified in this column shall no longer be included in the Utility Server Services Charges and such costs shall become Retained Expenses. "Desktop Software" means, for purposes of this tab, the Antivirus Software, Email/Collaborative Software and Utility/Monitoring & Management Software installed on personal computers.

The following descriptions are to aid in the interpretation of this Attachment and do not modify, change, or limit the obligations of either Party with respect to the relevant assets or activities as set forth in the Agreement:

Antivirus Software	Means Antivirus Software, as such term is defined in Exhibit 1 (e.g., McAfee, Symantec AV (aka Norton), Trend Micro).
Application Software	Means Application Software, as such term is defined in Exhibit 1.
Application Utilities	System Software that provides an addition to the capabilities of Application Software or COTS that allow for dynamic tailoring of the functionality (e.g., Cognos, SAS, Filenet, ERIS ARCxxx, Crystal Reports, Citrix, SQL Editor, Webtrends).
Compilers	System Software used to convert source code to executable code (e.g., Cobol, MicroFocus Cobol).
Database Management Software	System Software used to access structured data and usually provides functionality for ad-hoc queries, data retrieval and generating reports (e.g., Oracle, Informix, SQL Server, DB2, Sybase).
Development Tools	Means Development Tools, as such term is defined in Exhibit 1 (e.g., Front Page, test data generators, Visual Basic, .Net, ColdFusion, Rational).
E-mail / Collarborative Software	System Software that enables the exchange of electronic mail and facilitates the sharing and display of information among teams of people engaged in a cooperative task (e.g., Lotus Notes, Microsoft Exchange, Novell Groupwise).
Infrastructure Management Software	Management Tools used to provide an integrated tool to manage the entire Infrastructure (e.g., Tivoli Storage Manager, Veritas Netbackup, Veritas Backup Exec, Bakbone Netvault).
Middleware	Means Middleware, as such term is defined in Exhibit 1 (e.g., Weblogic, Websphere, Mqseries, Apache, BEA Tuxedo, IBM HTTP Server).
Network Software	Management Tools that enable multiple computers to communicate with one another (e.g., Process MultiNet, Attachmate, Fluke OpitView, Primesupport Sniffer, VPN, firewall software).
Operating Software	Means Operating Software, as such term is defined in Exhibit 1, excluding Application Utilities, Compilers, Database Management Software and E-mail / Collaborative Software (e.g., AIX, HP/UX, Solaris, Windows - including embedded functionality, Netware, Linux, AS400, GCOS).
Security Software	Management Tools that are used to restrict access to the data and files on a Server (e.g., ISA, SSH, Proxy, Radius, Websense, Surfcontrol, Tivoli Access Manager).
Utility / Monitoring & Management Software	Management Tools that facilitate the management, monitoring, and performance tuning of Equipment and Software, whether located in a Data Center or remote location (e.g., IBM Tivoli Distributed Monitor, Zenworks, Microsoft SMS, IBM Tivoli Configuration, Tivoli Software Distribution, Tivloi Enterprise Console, Tivoli Workload Scheduler, Remedy suite of Software, RMS Control, Remotely Anywhere, CA vShell, SMS).
CAL	Client Access License, referring to Microsoft Corporation's name for rights that must be purchased and enabled to allow for various email/collaboration functionality on Windows-based Servers.

HARDWARE SERVICE COST ESTIMATE

Hardware	SFY 08	SFY 09	SFY 10	SFY 11	SFY 12	SFY 13
Insert Rows Above This Line						
Total Hardware	-	-	-	200,350.35	-	200,350.35
Total Hardware Cumulative	-	-	-	200,350.35	200,350.35	400,700.70
Software	SFY 08	SFY 09	SFY 10	SFY 11	SFY 12	SFY 13
None	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
Insert Rows Above This Line						
Total Software	-	-	-	-	-	-
Maintenance	SFY 08	SFY 09	SFY 10	SFY 11	SFY 12	SFY 13
FY'07 Hardware Maintenance	$ 135,507.00	$ 135,507.00	$ 135,507.00	$ 135,507.00	$ 135,507.00	$ 135,507.00
FY'07 Software Maintenance	$ 216,688.00	$ 216,688.00	$ 216,688.00	$ 216,688.00	$ 216,688.00	$ 216,688.00
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -	$ -
Insert Rows Above This Line						
Total Maintenance	352,195.00	352,195.00	352,195.00	352,195.00	352,195.00	352,195.00

Total Costs	352,195.00	352,195.00	352,195.00	552,545.35	352,195.00	552,545.35
Monthly HSC	-	-	-	4,200.08	4,200.08	8,400.16
Annual HSC	-	-	-	50,400.94	50,400.94	100,801.87
Annual Software	-	-	-	-	-	-
Annual Maintenance	352,195.00	352,195.00	352,195.00	352,195.00	352,195.00	352,195.00
Total Annual Costs	**352,195.00**	**352,195.00**	**352,195.00**	**402,595.94**	**402,595.94**	**452,996.87**

Summary of Estimated Expenses - Current TexasOnline Environment

		SFY 09	SFY 10	SFY 11	SFY 12	SFY 13	Total
BASE CHARGES	**Tower: Mainframe**						
	CPU	$ -	$ -	$ -	$ -	$ -	$ -
	DASD	$ -	$ -	$ -	$ -	$ -	$ -
	Tape	$ -	$ -	$ -	$ -	$ -	$ -
	Print and Mail	$ -	$ -	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -	$ -	$ -
	Mainframe Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	Tower: Server						
	Application Servers	$ 1,031,402.92	$ 890,159.19	$ 799,939.27	$ 747,426.96	$ 684,521.17	$ 4,153,449.51
	Utility Servers	$ 3,595.24	$ 3,586.73	$ 3,588.65	$ 3,419.80	$ 3,222.74	$ 17,413.17
	Server Storage	$ 102,954.04	$ 100,235.37	$ 90,730.10	$ 88,629.82	$ 76,909.89	$ 459,459.20
	Server Total	**$ 1,137,952.19**	**$ 993,981.30**	**$ 894,258.02**	**$ 839,476.58**	**$ 764,653.80**	**$ 4,630,321.89**
	Hardware Serv. Charge	$ 352,195.00	$ 352,195.00	$ 402,595.94	$ 402,595.94	$ 452,996.87	$ 1,962,578.75
	Total Estimated Charges*	**$ 1,530,381.17**	**$ 1,382,523.06**	**$ 1,331,869.02**	**$ 1,275,608.47**	**$ 1,250,527.24**	**$ 6,770,908.95**

*Includes estimated DIR recovery rate of 2.7%